

**CORRESPONDENCE FROM 1/24/2023  
MUNICIPAL SERVICES COMMITTEE**

**Stevenson, Garrett**

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**Subject:**

FW: Public Comment - Pasadena Zero Emission Bus Rollout Plan

**From:** Sven <>

**Sent:** Tuesday, January 24, 2023 12:54 PM

**To:** Stevenson, Garrett <gstevenson@cityofpasadena.net>; Sabha, Tamer <tsabha@cityofpasadena.net>

**Subject:** Fwd: Public Comment - Pasadena Zero Emission Bus Rollout Plan

Hi,

I support the initiative to move to ZE buses sooner, but I want to voice my concerns with the heavy push towards FCEVs. The bulk of hydrogen produced (98%) is produced from fossil fuels, mostly steam reforming natural gas - with most of that production typically being without carbon capture. This means that although the bus is zero emission during use, the fuel creation generates unacceptably high levels of carbon emissions. Because of losses in producing and using the hydrogen an FCEV requires 2-3 times the energy to drive the same distance as battery electric. Additionally, depending on the gas source used there are the additional environmental concerns from methane leaks and fracking which still accounts for 2/3 of domestic natural gas production.

The study showed (Section II Exec Summary - page 42 paragraph 2) that depending on manufacturer around 15-25 of the 26 routes could be served by drop-in electric buses. I would encourage that a consideration be made that at least those routes that can be served by battery electric buses currently available be planned to be served by them, and the allowed RNG buses that can stay in service until 2037/2040 be used for those routes which cannot. As the rollout plan shows there is already a plan to buy a large number of CNG buses right before the cutoff anyways.

As the study indicated, the battery technology is expected to mature and those routes which currently can't be served by BEB will likely be able to be served by BEB in the future. But on page 59 it is clearly stated that this expected additional range is not being accounted for, and additional BEB purchases are being planned so that all buses can serve all routes. This means there is no plan on using future longer range buses on routes that require it. That is not smart resource management and unnecessarily increases the cost comparison for BEBs.

If the decision is made to go ahead with FCEVs I would like to see an immediate commitment to only use blue hydrogen (hydrogen produced with carbon capture) with a firm commitment date to switch to 100% green hydrogen, otherwise it's really just a CNG bus in disguise. With the states push towards zero carbon electric generation a zero carbon fleet is much more certain with BEBs than with FCEVs, and there is risk of future legislation limiting fossil fuel based hydrogen with the statewide push towards a net zero carbon future.

Hydrogen is a proven technology, but green hydrogen is not. Now is not the time to invest in significant infrastructure towards the wrong fuel for the future. With PWP's green power program a green battery electric fleet is possible now.

Thanks